CLAIMS

What is claimed is:

1   1.   In a server computer system having memory, a method of creating a class in

2   memory, wherein the class is used by the server computer system to create server-side objects

3   for dynamically rendering web page content, the web page content delivered to a client-side

4   computer system and displayed as a web page on the client computer system, said method

5   comprising:

6   receiving a request from the client specifying a dynamic web page content file;

7   processing the dynamic web page content file to produce a source code file containing

8   source code that represent control objects declared in the web page content file; and

9   compiling the source code file to produce a class from which a set of hierarchical objects

10   can be instantiated to produce web page authoring language that produces a web page for display;

11   wherein the source code file declaratorily refers to one or more additional dynamic web

12   page content files, each reference to the one or more additional dynamic web page content files

13   correspond to a single hierarchical object within the set of hierarchical objects.

1   2.   The method according to claim 1, wherein the source code file may be referenced

2   by a second source code file as one of the one or more additional dynamic web page content files.

1   3.   The method as defined in claim 2, wherein the dynamic web page content file is a

2   server-side declaration datastore.

1   4.   The method as defined in claim 2, wherein the class is stored in cache memory on

2   the server computer system and is available to instantiate objects in response to another request

3   specifying the dynamic web page content file.

1   5.   The method as defined in claim 2, wherein the class is stored on a magnetic storage

2   medium and is available to instantiate objects in response to another request specifying the

3   dynamic web page content file.

1   6.   The method as defined in claim 2, wherein the step processing the dynamic web

2   page content file comprises:

3   parsing the dynamic web page content file to store portions of the file into a data

4   model, the data model comprises a plurality of data objects linked in a hierarchical manner;

5   generating source code related to declaration information based on an analysis of

6   the data model during a first phase;

7   writing the source code related to declaration information to the source code file;

8   generating source code related to control object information based on an analysis

9   of the data model during a second phase; and

10   writing the source code related to control object information to the source code file

11   during the second phase;

12   where the one or more of the plurality of data objects correspond to compiled versions of

13   one or more additional dynamic web page content file.

8.   A method as defined in claim 7, wherein the method further comprises:

generating source code related to rendering information based on an analysis of the data model during a third phase; and

writing the source code related to rendering information to the source code file during the third phase.

9.   The method as defined in claim 2, further comprising the following:

prior to the step of processing the dynamic web page content file, determining whether the class related to the received request has been compiled and stored in memory; and

if the class has been compiled and stored in memory, skipping the processing step, otherwise continue with the processing step.

10.   A computer data signal embodied in a carrier wave by a computing system having memory and encoding a computer program for executing a computer process creating a class in memory, wherein the class is used by the server computer system to create server-side objects for dynamically rendering web page content, the web page content delivered to a client-side computer system and displayed as a web page on the client computer system, said computer process comprising:

receiving a request from the client specifying a dynamic web page content file;

processing the dynamic web page content file to produce a source code file containing source code that represent control objects declared in the web page content file; and

compiling the source code file to produce a class from which a set of hierarchical objects

11   can be instantiated to produce web page authoring language that produces a web page for display;

12   wherein dynamic web page content file declaratorily refers to one or more additional

13   dynamic web page content files, each reference to the one or more additional web page content

14   files correspond to a single hierarchical object within the set of hierarchical objects.

1   11.   A computer program storage medium readable by a computer system having

2   memory and encoding a computer program for executing a computer process creating a class in

3   memory, wherein the class is used by the server computer system to create server-side objects

4   for dynamically rendering web page content, the web page content delivered to a client-side

5   computer system and displayed as a web page on the client computer system, said computer

6   process comprising:

7   receiving a request from the client specifying a dynamic web page content file;

8   processing the dynamic web page content file to produce a source code file containing

9   source code that represent control objects declared in the web page content file; and

10   compiling the source code file to produce a class from which a set of hierarchical objects

11   can be instantiated to produce web page authoring language that produces a web page for display;

12   wherein dynamic web page content file declaratorily refers to one or more additional

13   dynamic web page content files, each reference to the one or more additional web page content

14   files correspond to a single hierarchical object within the set of hierarchical objects.

1   12.   In a server computer system having memory, a method of creating a plurality of

2   web page responses having dynamically rendered web page content, the web page responses

3   delivered to one or more client-side computer systems and displayed as a web pages on the client

4   computer systems, said method comprising:

5   receiving a request from the client computer system for the web page, wherein the request

6   identifies a dynamic web page content file;

7   creating a hierarchical data model containing one or more control objects to store elements

8   of the dynamic web page content file;

9   generating a source code file related to the dynamic web page content file based on the

10   evaluation of the data model;

11   compiling the source code file to create a compiled class in memory;

12   returning a class reference to the server computer system enabling the server computer

13   system to instantiate server-side processing objects from that class to dynamically generate web

14   page content;

15   rendering the dynamic web page content into a web page response for delivery to the

16   client computer system;

17   conducting the web page response to the requesting client computer system;

18   receiving a second request for the web page for the web page, wherein the request

19   identifies a dynamic web page content file;

20   determining that a compiled class for that dynamic web page content file resides in

21   memory;

22   returning a class reference to the server computer system enabling the server computer

23   system to instantiate server-side processing objects from that class to dynamically generate web

24   page content;

25   rendering the dynamic web page content into a second web page response; and

26   conducting the second web page response to the requesting client computer system;

27   wherein the dynamic web page content file declaratorily refers to one or more additional

28   dynamic web page content files, each reference to the one or more additional dynamic web page

29   content files correspond to a single hierarchical object within the set of hierarchical objects.

1   13.   A computer program storage medium readable by a computer system having

2   memory and encoding a computer program for executing a computer process creating a plurality

3   of web page responses having dynamically rendered web page content, the web page responses

4   delivered to one or more client-side computer systems and displayed as a web pages on the client

5   computer systems, said computer process comprising:

6   receiving a request from the client computer system for the web page, wherein the request

7   identifies a dynamic web page content file;

8   creating a hierarchical data model containing one or more control objects to store elements

9   of the dynamic web page content file;

10   generating a source code file related to the dynamic web page content file based on the

11   evaluation of the data model;

12   compiling the source code file to create a compiled class in memory;

13   returning a class reference to the server computer system enabling the server computer

14   system to instantiate server-side processing objects from that class to dynamically generate web

15   page content;

16   rendering the dynamic web page content into a web page response for delivery to the

17   client computer system;

18   conducting the web page response to the requesting client computer system;

19   receiving a second request for the web page for the web page, wherein the request

20   identifies a dynamic web page content file;

21   determining that a compiled class for that dynamic web page content file resides in

22   memory;

23   returning a class reference to the server computer system enabling the server computer

24   system to instantiate server-side processing objects from that class to dynamically generate web

25   page content;

26   rendering the dynamic web page content into a second web page response; and

27   conducting the second web page response to the requesting client computer system;

28   wherein the dynamic web page content file declaratorily refers to one or more additional

29   dynamic web page content files, each reference to the one or more additional dynamic web page

30   content files correspond to a single hierarchical object within the set of hierarchical objects.

1   14.   A computer data signal embodied in a carrier wave by a computing system having

2   memory and encoding a computer program for executing a computer process creating a plurality

3   of web page responses having dynamically rendered web page content, the web page responses

4   delivered to one or more client-side computer systems and displayed as a web pages on the client

5   computer systems, said computer process comprising:

6   receiving a request from the client computer system for the web page, wherein the request

7   identifies a dynamic web page content file;

8   creating a hierarchical data model containing one or more control objects to store elements

9   of the dynamic web page content file;

10   generating a source code file related to the dynamic web page content file based on the

11   evaluation of the data model;

12   compiling the source code file to create a compiled class in memory;

13   returning a class reference to the server computer system enabling the server computer

14   system to instantiate server-side processing objects from that class to dynamically generate web

15   page content;

16   rendering the dynamic web page content into a web page response for delivery to the

17   client computer system;

18   conducting the web page response to the requesting client computer system;

19   receiving a second request for the web page for the web page, wherein the request

20   identifies a dynamic web page content file;

21   determining that a compiled class for that dynamic web page content file resides in

22   memory;

23   returning a class reference to the server computer system enabling the server computer

24   system to instantiate server-side processing objects from that class to dynamically generate web

25   page content;

26   rendering the dynamic web page content into a second web page response; and

27   conducting the second web page response to the requesting client computer system;

28   wherein the dynamic web page content file declaratorily refers to one or more additional

29   dynamic web page content files, each reference to the one or more additional dynamic web page

30   content files correspond to a single hierarchical object within the set of hierarchical objects.

1   15.   A computer program product encoding a computer program for executing in a

2   computer system a computer process for creating a class in memory, wherein the class is used by

3   a server computer system to create server-side objects for dynamically rendering authoring

4   language elements, the elements are delivered to a client-side computer system and processed on

5   the client computer system, said process comprising:

6   receiving a request from the client computer system for the resource, wherein the request

7   identifies a dynamic web page resource;

8   processing the resource to generate a source code file related to the resource; and

9   compiling the source code file to create a compiled class in memory to enable the

10   instantiation of hierarchical objects of the compiled class;

11   wherein the source code file declaratorily refers to one or more dynamic web page content

12   files, each reference to the one or more dynamic web page content files correspond to a single

13   hierarchical object within the hierarchical objects.

16. A computer program product encoding a computer program for executing in a computer system a computer process for creating a class in memory as defined in claim 15, wherein the processing step of creating a data model comprises:

parsing the resource to separate the resource into logical elements and identify relationships between the logical elements;

creating a plurality of hierarchically related data structures forming a hierarchical data model; and

storing portions of the resource in the data structures.

17. A computer program product encoding a computer program for executing in a computer system a computer process for creating a class in memory as defined in claim 15, wherein the processing step comprises the following steps:

performing a first analysis of the resource to generate source code related to variable declaration information;

performing a second analysis of the resource to generate source code related to control object information;

performing a third analysis of the resource to generate source code related to rendering information; and

storing the source code in the source code file.

18. A computer program product encoding a computer program for executing in a computer system a computer process for creating a class in memory as defined in claim 16,

3   wherein the processing step of generating source code comprises further comprises the step of

4   generating an intermediate data structure, wherein the source code is generated from the

5   intermediate data structure.

1   19.   A computer program product encoding a computer program for executing in a

2   computer system a computer process for creating a class in memory as defined in claim 18,

3   wherein the processing step of generating an intermediate data structure further comprises:

4   performing a first analysis of the resource to generate intermediate data structure elements

5   related to variable declaration information;

6   performing a second analysis of the resource to generate intermediate data structure

7   elements related to control object information;

8   performing a third analysis of the resource to generate intermediate data structure

9   elements related to rendering information; and

10   generating source code from the intermediate data structure.

1   20.   A computer program product encoding a computer program for executing in a

2   computer system a computer process for creating a class in memory as defined in claim 20,

3   wherein the intermediate data structure is a generic description that may be translated into a

4   plurality of source code language files, wherein at least one source code file is different from

5   another source code language file.